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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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EXAMINER

ART UNIT

PAPER NUMBER

DATE MAILED:

10/15/99

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

# Office Action Summary

Application No  
**09/158,982**

Applicant(s)  
**Mullins et al.**

Examiner  
**Ardin Marschel**

Group Art Unit  
**1655**



Responsive to communication(s) filed on \_\_\_\_\_

This action is **FINAL**.

Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed**  
in accordance with the practice under *Ex parte Quayle*, 1035 C.D. 11, 453 O.G. 213

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

## Disposition of Claim

- ☒ Claim(s) 1-23 is/are pending in the application
- Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration
- Claim(s) \_\_\_\_\_ is/are allowed
- ☒ Claim(s) 1-7 and 10-23 is/are rejected
- ☒ Claim(s) 8 and 9 is/are objected to
- Claims \_\_\_\_\_ are subject to restriction or election requirement

## Application Papers

See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner

The proposed drawing correction, filed on \_\_\_\_\_ is ☐ approved ☐ disapproved

The specification is objected to by the Examiner

The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119

Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d)

All ☐ Some\* ☐ None ☐ of the CERTIFIED copies of the priority documents have been received

received in Application No. (Series Code/Serial Number) \_\_\_\_\_

received in this national stage application from the International Bureau (PCT Rule 17.2(a))

\*Certified copies not received \_\_\_\_\_

Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e)

## Attachment(s)

Notice of References Cited, PTO-892

☒ Information Disclosure Statement(s), PTO-1449, ~~22~~ 2 (1 sheet)

Interview Summary, PTO-413

Notice of Draftsperson's Patent Drawing Review, PTO-948

Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

The art unit designated for this application has changed. Applicant(s) are hereby informed that future correspondence should be directed to Art Unit 1655.

Claims 10 and 23 are rejected, as discussed below, under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 10 contains a limitations directed to "READS" which causes the claim to be vague and indefinite because no definition of what is meant thereby has been found in the instant specification. It is noted that page 27, lines 6-10, discusses a READS primer without stating what it is.

Claim 23 confusingly depends from itself.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Claims 1-7 are rejected under 35 U.S.C. § 102(a) as being clearly anticipated by Lockhart et al. (Ref. A3).

Lockhart et al. measures gene expression regarding thousands of mRNAs via array hybridization as summarized in the abstract. The hybridization to each probe on the array is quantified via a

scanning confocal microscope as described on page 1676, second column, last paragraph, and on page 1679, "Experimental protocol", first three paragraphs therein. The result of the scan is shown as an image in Figure 2, part A, for example. It is noted that computer analysis and related computer files of the position and intensity of hybridization is disclosed on page 1679, section entitled "Quantitative analysis of hybridization patterns and intensities" which anticipates part (b) of instant claim 1 which is multi-dimensional as containing data for the below described displays which contain at least two dimensions, but may be deemed to contain three dimensions as the intensity is similar to 3-D pictures but flatly displayed. Thus, the hybridization to separate probes are characteristics of the sample that meet parts (a), (i) and (ii), of instant claim 1 a multitude of times. The quantitation of hybridization is a measure of the quantity of polynucleotide as required in instant claim 1, part (a), (iii). Figures 2 and 3 on pages 1676 and 1678, respectively, anticipate the display required in instant claim 1, part (c). It is noted that probe hybridization both give data as a measure of complementarity as well as size (instant claim 3) as determined by the probe size. cDNA intermediate production is shown as part of the procedure in Figure 1 on page 1676 which includes the cDNA characterization deemed to be claimed in instant claims 5 and 6 which clearly

contain " and fragments. In summary the above disclosures of the reference clearly anticipate instant claims 1-4.

The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. § 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 C.F.R. § 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(a) and potential 35 U.S.C. § 102(f) or (g) prior art under 35 U.S.C. § 103(a).

Claims 11-13 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Lorchhart et al. (Ref. A3).

On page 1078, Lorchhart et al. performs a time point experiment wherein the array results are compared in order to obtain time point data for T cell induction. This motivates and suggests the extremely well known mathematical operations of comparison between profiles at various times such as subtraction or co-ordinate display in order to compare the various time point

results.

Thus, it would have been obvious to someone of ordinary skill in the art at the time of the instant invention to practice the instant invention because Lockhart et al. suggests and motivates comparisons between gene expression time points for T cell induction which is deemed to suggest and motivate such extremely well known comparison calculations such as subtraction of comparable profiles etc. as instantly claimed.

The disclosure is objected to because of the following informalities:

In the specification on pages 9-10 Figures 1-11 are briefly described but confusingly no Figures were filed with this application.

Appropriate correction is required.

Claims 6 and 9 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

No claim is allowed.

Papers related to this application may be submitted to Group 10 by facsimile transmission. Papers should be faxed to Group 10 via the ITC Fax Center located in Crystal Mall 1. The faxing of such papers must conform with the notices published in the Official Gazette, 1993 CB 3 (November 18, 1993), 1993 CB 3 (November 1, 1993), and 1993 CB 34 (December 27, 1993). See 37 CFR § 1.63. The TMI Fax Center number is either 703-305-4441 or 703-305-3144.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ardin Marschel, Ph.D., whose telephone number is (703) 308-3694. The examiner can normally be reached on Monday-Friday from 9 A.M. to 4 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, W. Gary Jones, can be reached on (703) 308-1152.

Any inquiry of a general nature or relating to the status of this application should be directed to the Chemical Matrix receptionist whose telephone number is (703) 308-9100.

December 13, 1999

*Ardin H. Marschel*  
ARDIN H. MARSCHEL  
PRIMARY EXAMINER